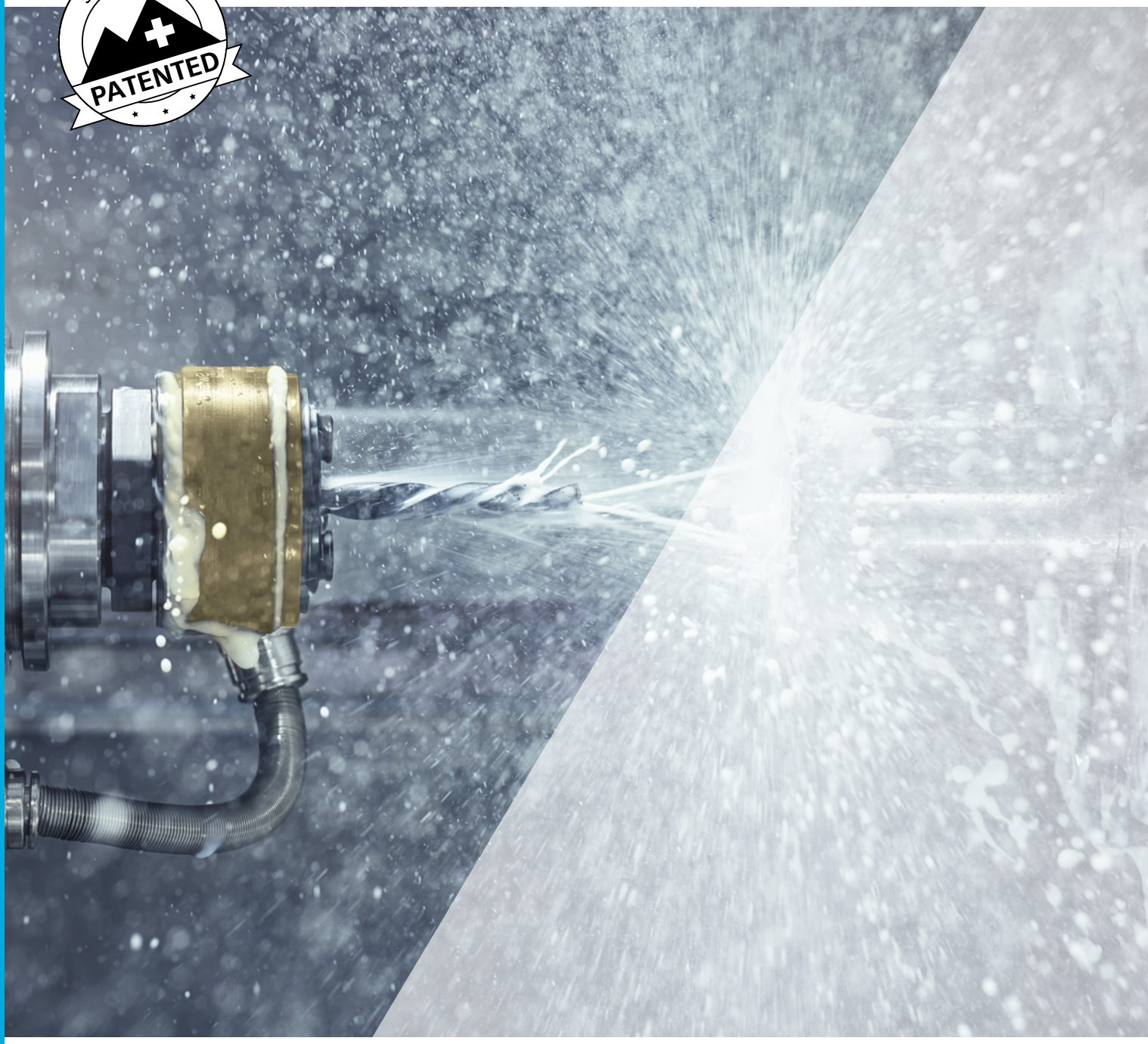
REGO-FIX



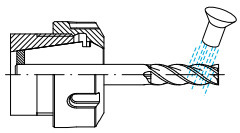
reCool® by REGO-FIX

Fast and easy retrofitting to internal cooling for oil and emulsion

The differences of wet and dry machining

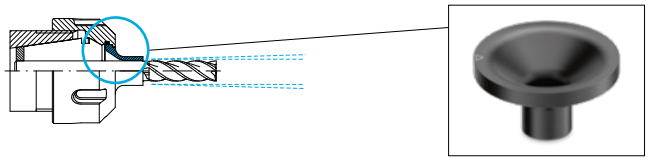
Supplying the right amount of coolant to where it matters

Key features of external flood cooling



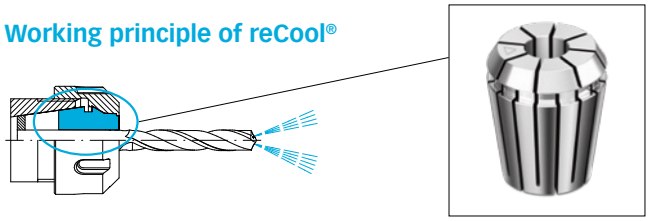
// Universal application possibilities
// Problems may arise with deep cavities
// Reduction of tool life because cooling is not right on the cutting edge
// Suboptimal chip deflection
// Limited adjustment of nozzles due to different tool lengths and diameters

Key features of peripheral cooling



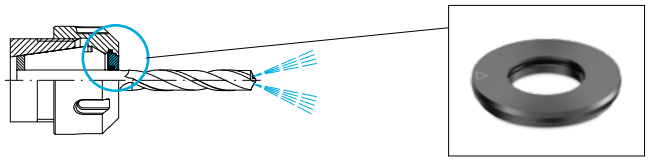
// Coolant is fed along the side of the tool to the cutting edge
// Can be used for moderate cavities
// Achieve peripheral cooling with reCool® and the use of our coolant flush disk KS / ER or PG-CF collet

Working principle of reCool®



// Oil and emulsion flows through the collet
// That is why using a DM collet is not possible

Key features of internal cooling



// Precise cooling at the cutting edge and improved chip removal
// Particularly suitable for deep cavities
// Deep hole drilling and threading
// Lubrication of cutting edge and cooling
// Best surface quality
// Achieve internal cooling with reCool® and the use of our sealing disk DS / ER

Speedy retrofitting to internal cooling

Retrofit flood cooling to internal cooling in two minutes with reCool®. Available for both static tooling systems and driven tools.

RCR / ERAX

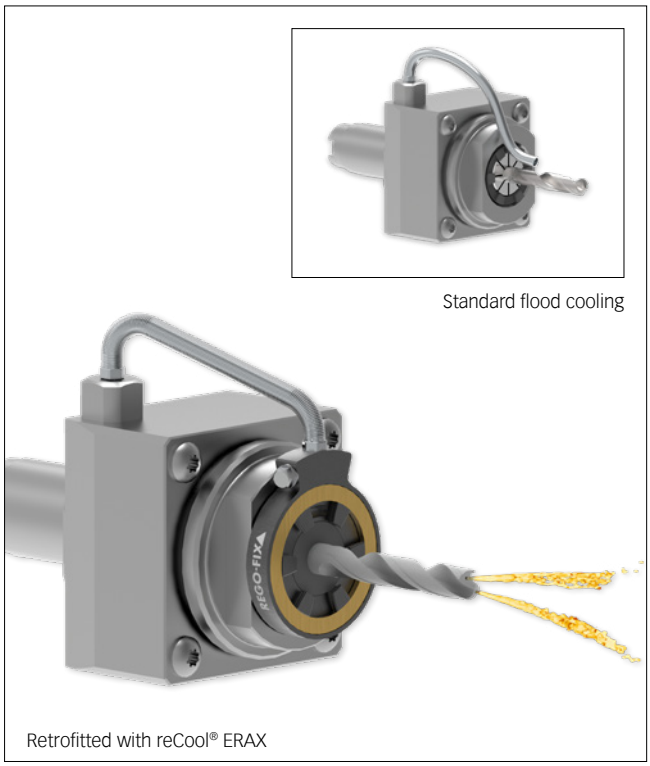
Key features of reCool® ERAX for use with driven tools

// For driven tools with inner thread
// Short design: optimising machining range
// Maximum pressure: 100 bar
// Maximum RPM: 12,000 min^{-1}
// Copper-like coating for reduced friction
// Tools shank diameter 3–20 mm
// Suited for emulsion and oil
// For ER collets to ISO 15488 / DIN 6499
// To be used with KS / DS disks
// For coolant through tools (with sealing disks DS / ER) and for peripheral cooling (with coolant flush disks KS / ER)

RCR / Hi-S

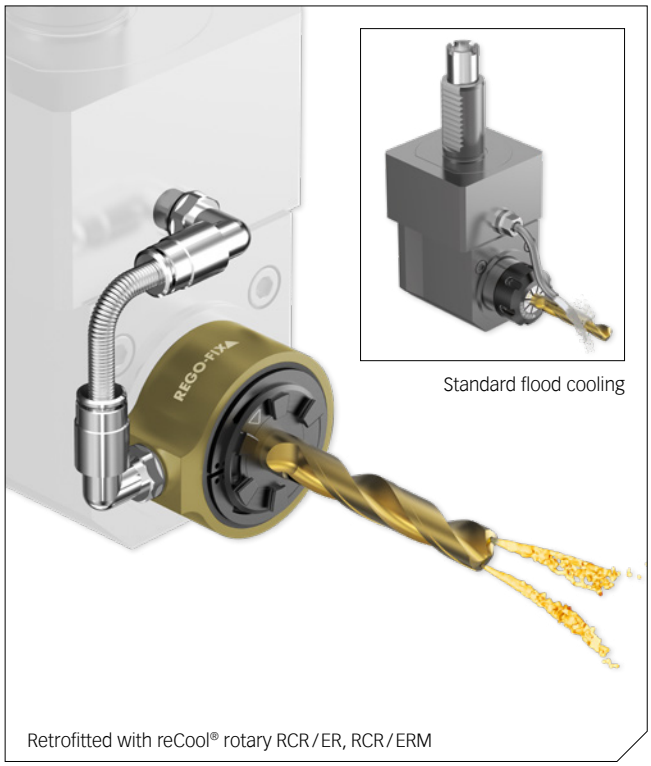
Key features of reCool® rotary RCR for use with driven tools & spindles

// Cost-friendly conversion of existing driven tooling systems to through coolant in only two minutes
// For ER and ERM thread in driven tools and turning machines and for ER collets to DIN 6499 / ISO 15488
// Speeds up to 40,000 rpm
// Coolant pressures up to 150 bar with high-pressure hose, standard hose max. 100 bar
// Low-maintenance coolant lubricated bearings
// For coolant through tools (with sealing disks DS / ER) and for peripheral cooling (with coolant flush disks KS / ER)



Standard flood cooling

Retrofitted with reCool® ERAX



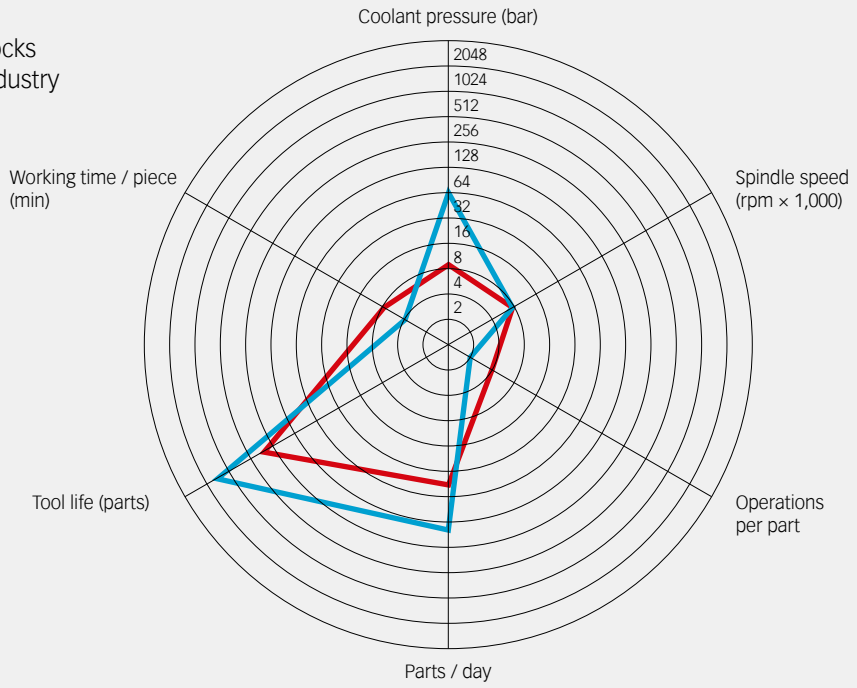
Standard flood cooling

Retrofitted with reCool® rotary RCR / ER, RCR / ERM

reCool® gets you more for less

Achieve operational excellence by reducing manufacturing time and securing production chains.

Customer 1
Production of contacting blocks for the power-electronics industry



// Pressure up by 700 %
// Parts per day up by 300 %
// Tool life up by 275 %

Logarithmic scale

conventional
with reCool®

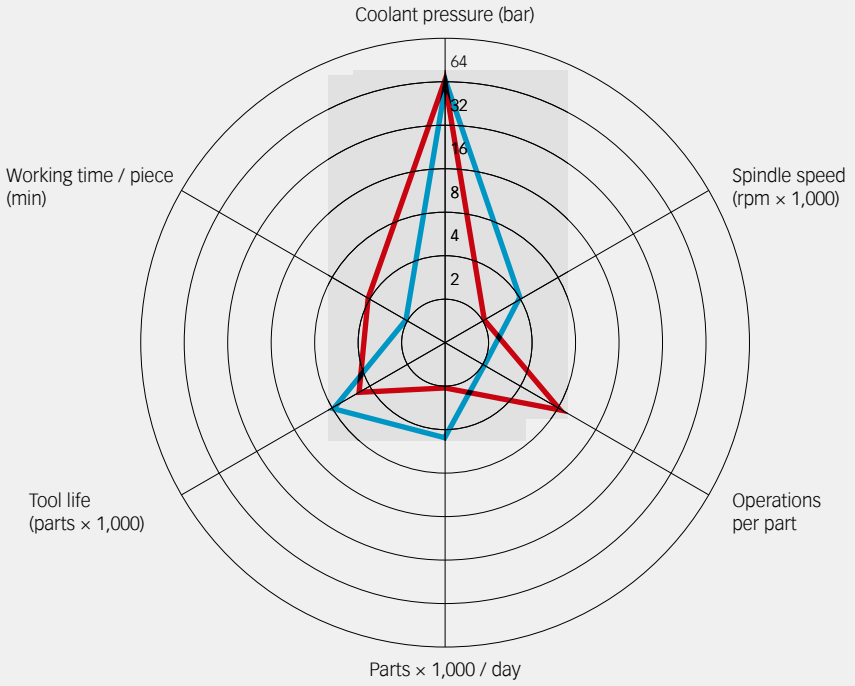
Automotive industry Automotive manufacturers and suppliers are confronted with increasing process complexity, shorter technology cycles and steady pressure to innovate.

Benefits of reCool® reCool® enables customers to produce high-quality parts in less time with lowered costs. Our cooling solution is retrofittable on any turning machines and lathes. This is why reCool® offers great potential for almost all manufacturers.

Productivity is key for customers in the automotive industry. With beaming eyes, we tell you that our customer doubled his productivity thanks to reCool®.

Our products generate competitive advantages

Customer 2
Production of
hydraulic cylinders



// Working time down by 50 %
// Spindle speed up by 100 %
// Operations per part down by 75 %

Interview

Robin Bopp
Product manager for reCool®

What is the biggest benefit for customers when retrofitting from external cooling to internal cooling with reCool®?
For customer 1, we could increase the coolant pressure by 60 bar.

This leads to perfect cooling of the cutting edges and improved chip removal too.

For which customers could reCool® be particularly interesting?
For all customers that have turning and Swiss machines.
Even modern machines often do not come with adequate cooling solutions.

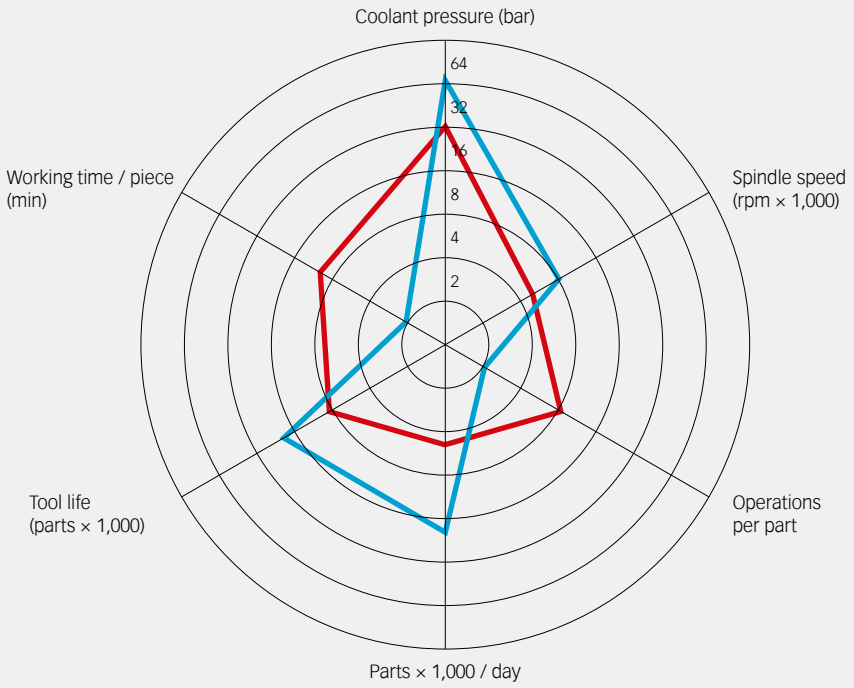
How are the initial costs of reCool® legitimized, considering the investment costs for a new production machine?
A complete reCool® retrofitting of an entire machine costs only a fraction of the price of machines with internal cooling.

Taking into account modern production trends like 3D printing, how are the market developments for turning and reCool® in particular?
Turning applications will remain an integral part of manufacturing, as production costs per part are extremely low. With a focus on high-tensile materials, that need lubrication and cooling while machining, reCool® provides a crucial benefit.

Bring coolant to where it matters

Reduce coolant quantity by retrofitting from flood cooling to internal or peripheral cooling.

Customer 3
Production of metal tubes for air-conditioning sensors



// Parts per day up by 325 %
// Time per piece down by 77 %
// Operations per part down by 75 %

Production of 800,000 cooling pipes for automotive industry

Investment required reCool® unit, sealing disk.

RCR / ER 11	Before	With reCool®	Change
Spindle speed	5,000 rpm	8,000 rpm	**+ 3,000 rpm**
Feed-rate	55 m/min	80 m/min	**+ 25 m/min**
Drilling depth	2 × 5D	1 × 8D	**– 1 operation**
Picking	2 × 4 times	1 time	**– 7x**
Chip removal	bad	very good	☺
Coaxiality of drilled hole	0.04–0.05 mm	0.01–0.02 mm	**100%**
Production time/piece	8.6 seconds	2.0 seconds	**400%**
Daily output	4,000 pieces	16,000 pieces	**400%**
Tool life	8,000 pieces	20,000 pieces	**250%**
Production costs	108,000 €	26,500 €	**75% savings**

Perfectly prepared for everything

Contract manufacturer, machine builder and system constructor Sumec AG, headquartered in Niederbipp, Switzerland, recently retrofitted its machining centers with REGO-FIX's reCool® coolant-through lubrication system.

To be able to have competitive and profitable production operations in an expensive location such as Switzerland, manufacturing experts keep investing in modern technology as can be seen in the features being added to CNC machining centers. The goal was making a difficult part on a CNC machining center in a single pass to have short lead times and maximize the corresponding efficiency. This was tricky as drilling depths of up to ten times the diameter of the drill is only possible with tools that supply cutting fluid through internal cooling channels. To achieve this, the CNC machining centers must feature equipment for delivering the cutting fluid through the toolholder at the relevant driven turret stations. Installing the corresponding units and toolholders is not cheap.

Philipp Nützi, who is responsible for the CNC Production Engineering Unit at Sumec AG, reports:

"We are now able to fully machine components, even complex ones, in a single pass in most cases. This has resulted in shorter lead times and greater flexibility – particularly when manufacturing single components and small batch sizes."

Retrofitting coolant-through lubrication in a cost-effective manner
This is why they decided to retrofit a CNC machining center with the REGO-FIX reCool® cooling system at several driven stations instead. The system has several important advantages. Alan Handschin, product manager at REGO-FIX, explains that the special collet chucks consist of two components: the housing, that does not rotate, and the clamping nut, that does. The entire system is simply used to replace a standard clamping nut, and the cutting fluid is supplied from the outside. Once supplied, the fluid reaches the cooling channels in the clamped drilling and milling tools inside the reCool® system's clamping nuts. The reCool® system is characterized by a long service life and extremely low maintenance requirements.

reCool® is available for collet sizes of ER 11 to ER 40. It works with unparalleled reliability at speeds of up to 40,000 rpm, and makes it possible to deliver oils and emulsions at a pressure of up to 150 bar through the clamping nut into tools with internal cooling channels. Finally, all tools with a straight shank can be inserted and clamped just like in a standard collet chuck.

Flexibility as a result of fast and easy setup In addition, the experts in Niederbipp have been able to maintain a high level of flexibility that enables them to use or forego cutting fluid as necessary, all thanks to the fact that the reCool® system can be set up and removed in record time.

Various options that expand the range of applications One of the options with reCool® is to use a coolant flush disk instead of a sealing disk. When this option is used, the supplied cutting fluid will not go into the internal cooling channels of the tool that is clamped, but instead will reach the cutting edge of the drilling and milling tools from outside, via the shank. When compared to the standard lubrication supply systems like a modular hose system, reCool® allows a much better and more targeted cooling supply.

The reCool® is also available for driven tools with internal threads, further enhancing the system's versatility.

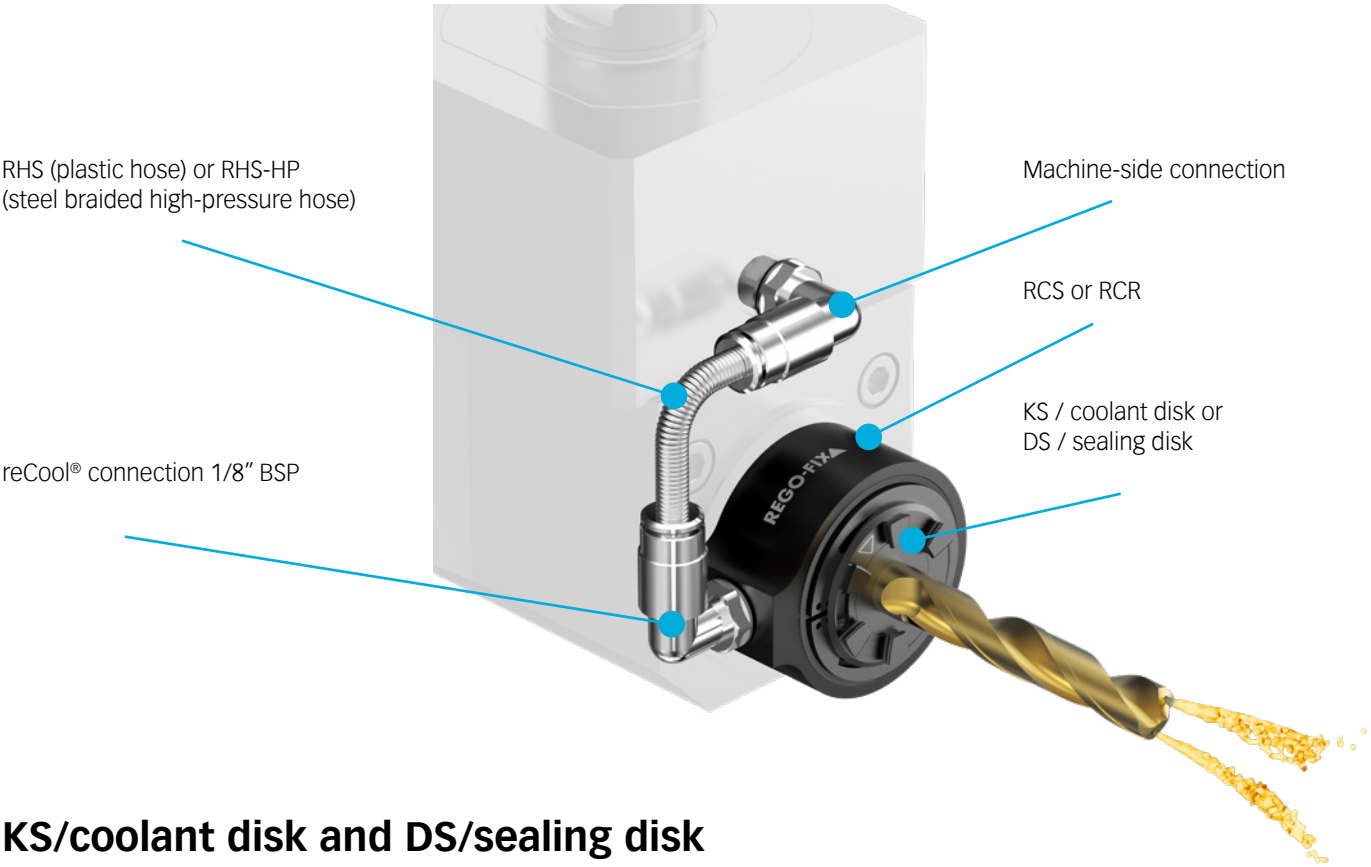
Originally reCool® was purchased for machining eccentric axial holes to be made. Sumec made very good experiences with the system so that Philipp Nützi concludes:

"That's why we will definitely keep using reCool® in the future for machining when coolant through tools are used."

reCool® RCR and RCS

RCS/RCR

Easy retrofit to internal coolant supply



KS/coolant disk and DS/sealing disk

The reCool® system can be configured for internal cooling using sealing disks or for peripheral cooling using coolant disks.

Sealed collets (ER-DM) and collets with coolant holes (ER-CB) **cannot be used.**

Machine-side connection

see page ▶ 18

For applications up to 100 bar, the following connectors can be used:

// RVG – straight quick coupling
// RVA – 90° quick coupling
// RBA – ball head adapter
// RRA – aluminium ring adapter

For applications up to 150 bar, the connectors are factory-crimped to the hose.

reCool® connection

see page ▶ 18

// RVG – straight quick coupling
// RVA – 90° quick coupling

For applications up to 150 bar, the connectors are factory-crimped to the hose.

Hose

see page ▶ 18

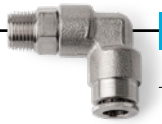
// RHS – plastic hose with anti-kink spring, up to 100 bar. Can be shortened by user.
// RHS-HP – steel braided hose for high-pressure applications up to 150 bar. **Cannot be shortened.**

reCool® RCR and RCS

Easy retrofit to internal coolant supply

Type	Part no.
Threaded fittings*	
SET RVG-100 1/8" – 0°	3799.96180
SET RVG-100 M8 x 1 – 0°	3799.96810

** 2 pieces per set*

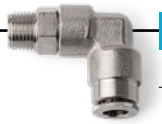


Type	Part no.
Threaded fittings*	
SET RVA-100 1/8" – 90°	3799.96189

** 2 pieces per set*

Type	Part no.
Threaded fittings*	
SET RVG-100 1/8" – 0°	3799.96180

** 2 pieces per set*



Type	Part no.
Threaded fittings*	
SET RVA-100 1/8" – 90°	3799.96189

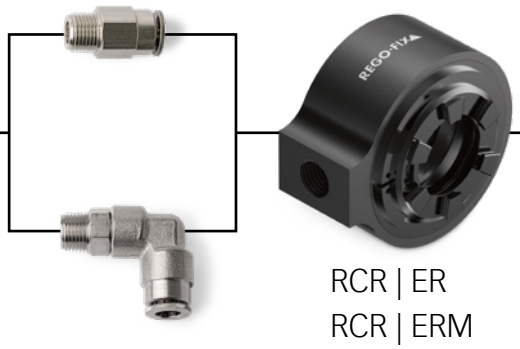
** 2 pieces per set*

Type	Part no.	Ø
Ball head adapter RBA 1/8" BSP		
RBA 10	3799.93100	10 mm
RBA 11	3799.93110	11 mm
RBA 12	3799.93120	12 mm
RBA 13	3799.93130	13 mm
RBA 14	3799.93140	14 mm
RBA 15	3799.93150	15 mm
RBA 16	3799.93160	16 mm

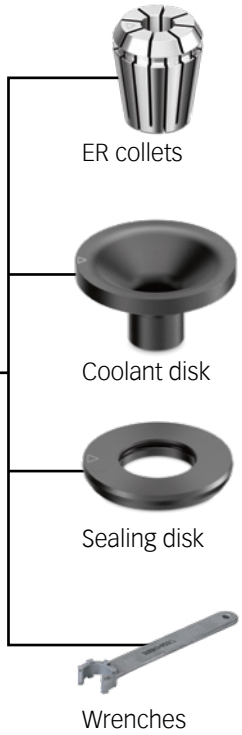
Type	Part no.	Ø
Ball head adapter RBA 1/8" BSP		
RBA 10	3799.93100	10 mm
RBA 11	3799.93110	11 mm
RBA 12	3799.93120	12 mm
RBA 13	3799.93130	13 mm
RBA 14	3799.93140	14 mm
RBA 15	3799.93150	15 mm
RBA 16	3799.93160	16 mm

Type	Part no.	Ø
Aluminum ring adapter RRA 1/8" BSP		
RRA 10	3799.94100	10 mm
RRA 11	3799.94110	11 mm
RRA 12	3799.94120	12 mm
RRA 13	3799.94130	13 mm
RRA 14	3799.94140	14 mm
RRA 15	3799.94150	15 mm
RRA 16	3799.94160	16 mm

Type	Part no.	Ø
Ball head adapter RBA 1/8" BSP		
RBA 10	3799.93100	10 mm
RBA 11	3799.93110	11 mm
RBA 12	3799.93120	12 mm
RBA 13	3799.93130	13 mm
RBA 14	3799.93140	14 mm
RBA 15	3799.93150	15 mm
RBA 16	3799.93160	16 mm



RCR | ER
RCR | ERM
RCR | Hi-S
RCS | ERMX

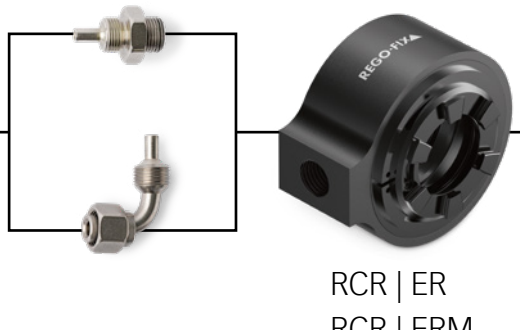


ER collets
Coolant disk
Sealing disk
Wrenches

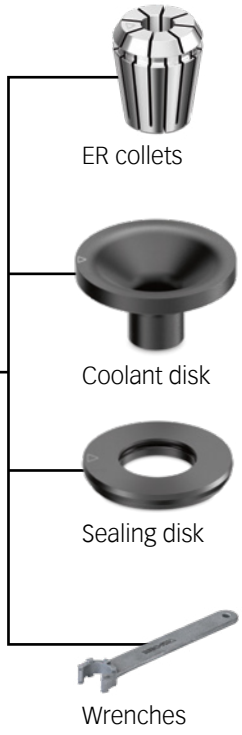
Standard hose set RHS*

SET RHS-100	3799.95000	400*

** ≤100 bar; incl. spiral spring*
Length can be individually shortened between 50 – 400 mm



RCR | ER
RCR | ERM
RCS | ERMX

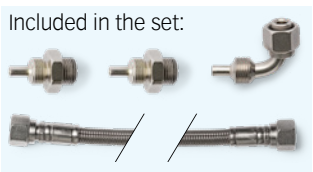


ER collets
Coolant disk
Sealing disk
Wrenches

Type	Part no.	Length
High-pressure hoses*		
SET RHS-HP L100	3799.97100	100 mm
SET RHS-HP L200	3799.97200	200 mm
SET RHS-HP L300	3799.97300	300 mm
SET RHS-HP L400	3799.97400	400 mm
SET RHS-HP L500	3799.97500	500 mm
SET RHS-HP L600	3799.97600	600 mm
SET RHS-HP L700	3799.97700	700 mm

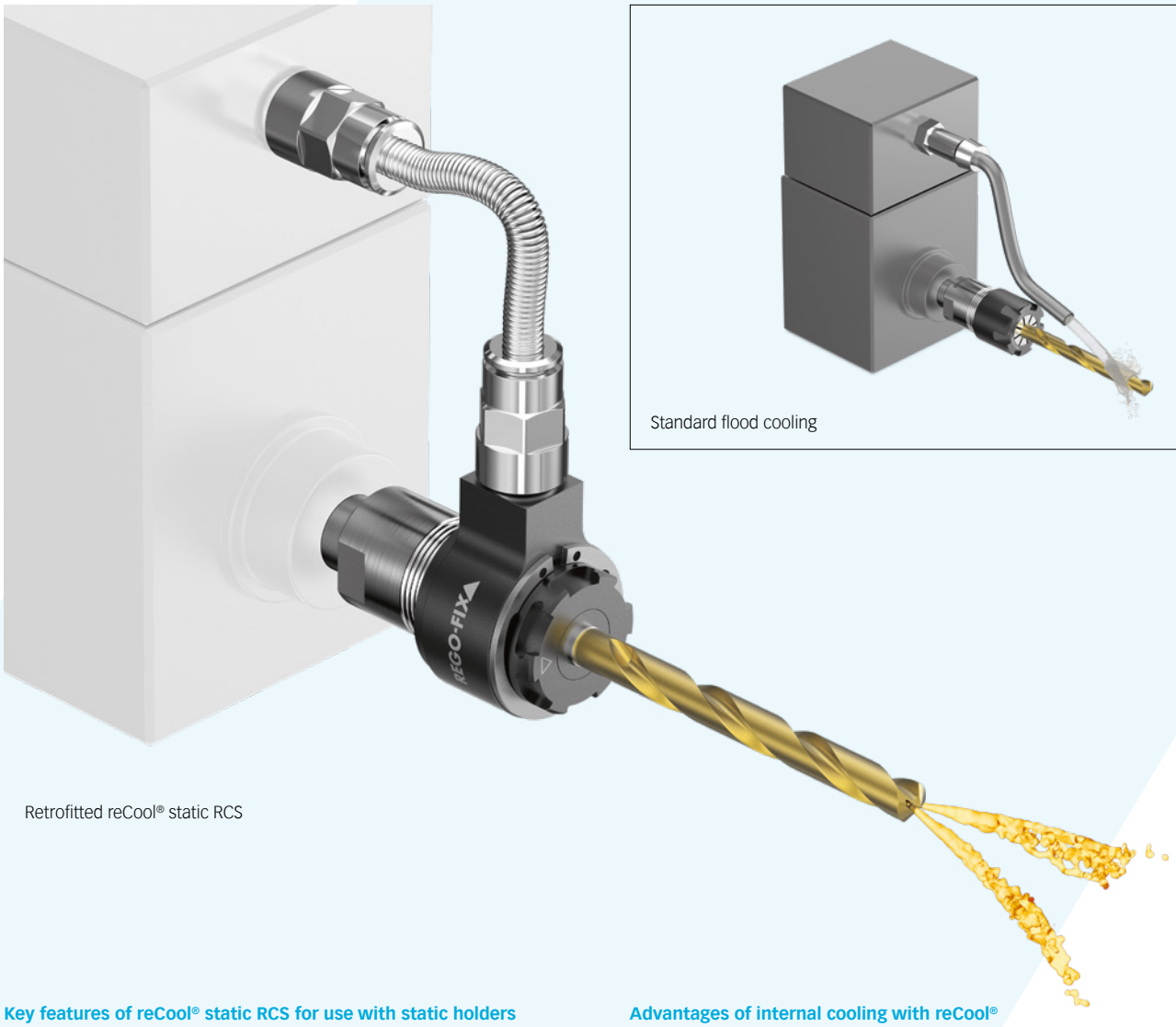
** ≤150 bar; incl. 1/8" threaded fitting*

Included in the set:



Fast and easy retrofitting: From external flood cooling to internal cooling

Standard flood cooling



Retrofitted reCool® static RCS

Key features of reCool® static RCS for use with static holders

- // Cost-friendly conversion of existing static tooling systems to through coolant in only two minutes
- // For ER collets (DIN 6499 / ISO 15488) in stationary toolholders with external fine threads
- // Coolant pressures of up to 150 bar / 2100 PSI*
- // RCS / ERMX for emulsion and oil coolants
- // Low-maintenance design
- // For coolant through tools (with sealing disks DS) and for peripheral cooling (with coolant flush disks KS)
- // Not for use with sealed collets DM

Advantages of internal cooling with reCool®

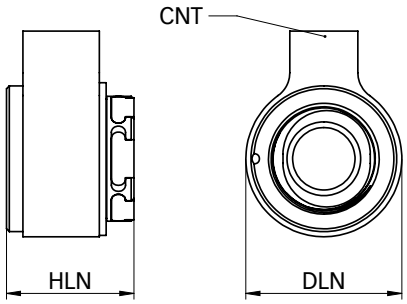
- // Optimized coolant supply to the cutting edge: increases tool life and reduces cycletime
- // Best chip removal
- // No scattering or spray losses

reCool® static coolant supply system RCS

Type	Part no.	Dimensions [mm] HLN	DLN	CNT	Accessories Wrench
Set RCS (for emulsion- and oil-based coolants)					
SET RCS/ERMX 16	3716.50000	22,5	27,5	M 19 x 1	7118.16000
SET RCS/ERMX 20	3720.50000	24	34,5	M 24 x 1	7118.20000
RCS/ERMX nut (for emulsion- and oil-based coolants)					
RCS/ERMX 16	3716.59000	22,5	27,5	M 19 x 1	7118.16000
RCS/ERMX 20	3720.59000	24	34,5	M 24 x 1	7118.20000

Included in set RCS Type	Ex.
RCS/ERMX 16/20	1
SET RHS x 400	1
SET RVG / 1/8" BSP	2
SET RVA 90° / 1/8" BSP	2

SET RCS/ERMX



RCS/ERMX

reCool® sets overview

reCool® RCS and reCool® RCR sets

RCS/ERMX

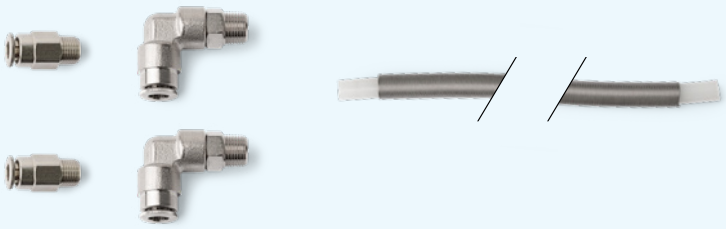
+

RCR/ER

+

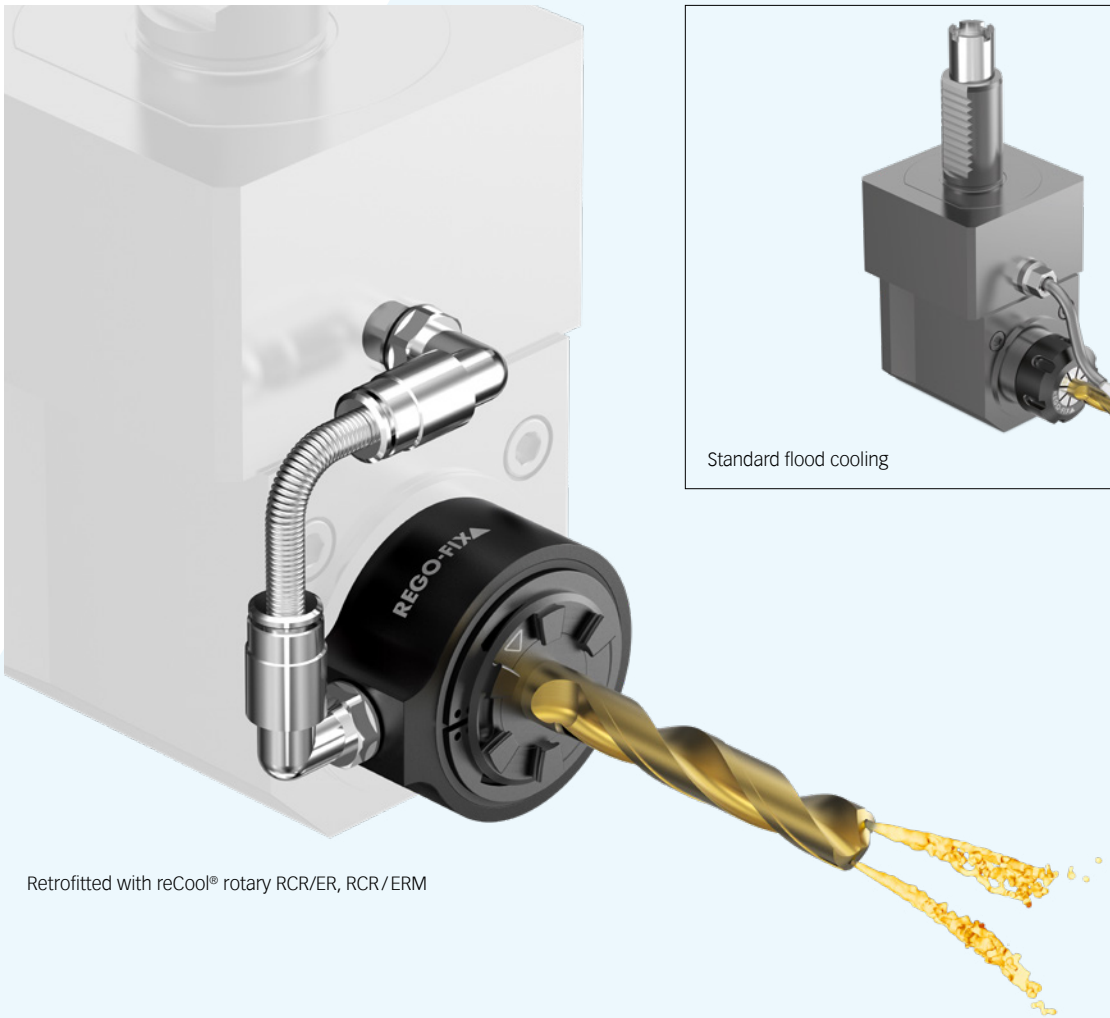
RCR/ERM

+

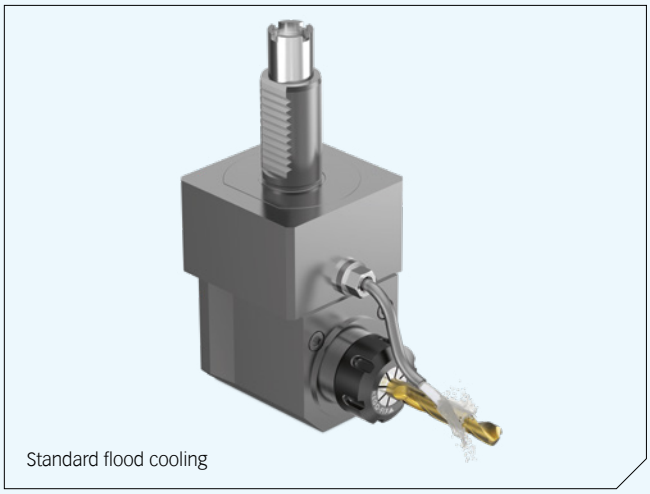


When ordering a set ("SET" in type name) you will receive the indicated reCool® nut as well as the accessories shown here.

Low-cost retrofitting to internal cooling



Retrofitted with reCool® rotary RCR/ER, RCR/ERM



Standard flood cooling

Key features of reCool® rotary RCR for use with spindles

- // Cost-friendly conversion of existing driven tooling systems to through coolant in only two minutes
- // For ER and ERM thread in driven tools and turning machines and for ER collets to DIN 6499/ISO 15488
- // Speeds up to 12.000 rpm*
- // Coolant pressures up to 150 bar with high-pressure hose, standard hose max. 100 bar/1400 PSI
- // Low-maintenance coolant lubricated bearings
- // For coolant through tools (with sealing disks DS/ER) and for peripheral cooling (with coolant flush disks KS/ER)
- // Not for use with sealed collets DM

Advantages of internal cooling with reCool®

- // Optimized coolant supply to the cutting edge: increases tool life and reduces cycle time
- // Best chip removal
- // No scattering or spray losses

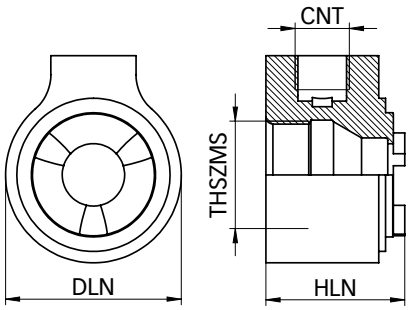
reCool® rotary coolant supply system RCS

Type	Part no.	Dimensions [mm] HLN	DLN	THSZMS	Accessories Wrench
Set RCR/ER (for emulsion- and oil-based coolants)					
SET RCR/ER 11	3711.10000	16,6	21,75	M 14 x 0,75	7117.11000
SET RCR/ER 16	3716.10000	24,5	34	M 22 x 1,5	7117.16000
SET RCR/ER 20	3720.10000	26	40	M 25 x 1,5	7117.20000
SET RCR/ER 25	3725.10000	27	50	M 32 x 1,5	7117.25000
SET RCR/ER 32	3732.10000	29,5	62,5	M 40 x 1,5	7117.32000
SET RCR/ER 40	3740.10000	32,5	72,5	M 50 x 1,5	7117.40000
RCR/ER nut (for emulsion- and oil-based coolants)					
RCR/ER 11	3711.19000	16,6	21,75	M 14 x 0,75	7117.11000
RCR/ER 16	3716.19000	24,5	34	M 22 x 1,5	7117.16000
RCR/ER 20	3720.19000	26	40	M 25 x 1,5	7117.20000
RCR/ER 25	3725.19000	27	50	M 32 x 1,5	7117.25000
RCR/ER 32	3732.19000	29,5	62,5	M 40 x 1,5	7117.32000
RCR/ER 40	3740.19000	32,5	72,5	M 50 x 1,5	7117.40000

Included in set RCR

Type	Ex.
RCR/ER 11 – 40	1
SET RHS x 400	1
SET RVG / 1/8" BSP	2
SET RVA 90° / 1/8" BSP	2

SET RCR/ER, SET RCR/ERM



RCR/ERM

Type	Part no.	Dimensions [mm] HLN	DLN	THSZMS	Accessories Wrench
Set RCR/ERM (for emulsion- and oil-based coolants)					
SET RCR/ERM 11	3711.30000	16,6	21,75	M 13 x 0,75	7117.11000
SET RCR/ERM 16	3716.30000	24,5	31	M 19 x 1	7117.16000
SET RCR/ERM 20	3720.30000	26	38	M 24 x 1	7117.20000
SET RCR/ERM 25	3725.30000	27	46	M 30 x 1	7117.25000
RCR/ER nut (for emulsion- and oil-based coolants)					
RCR/ERM 11	3711.39000	16,6	21,75	M 13 x 0,75	7117.11000
RCR/ERM 16	3716.39000	24,5	31	M 19 x 1	7117.16000
RCR/ERM 20	3720.39000	26	38	M 24 x 1	7117.20000
RCR/ERM 25	3725.39000	27	46	M 30 x 1	7117.25000

Included in set RCR

Type	Ex.
RCR/ERM 11 – 25	1
SET RHS x 400	1
SET RVG / 1/8" BSP	2
SET RVA 90° / 1/8" BSP	2

reCool® Hi-Speed

RCR Hi-S

Retrofit high-speed spindles to internal cooling

Features and benefits

Easy

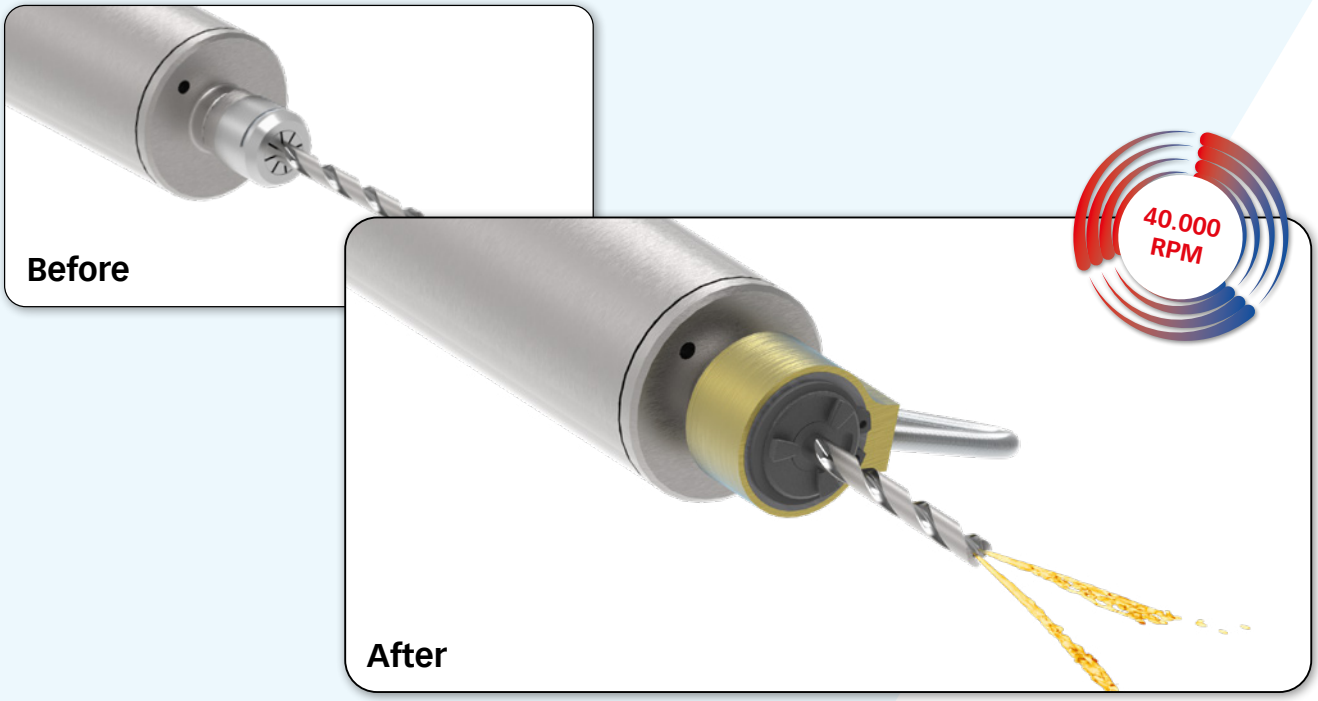
High-speed spindles can now be easily retrofitted for internal cooling.

Fast

Improved design for higher speeds on high-speed and high-frequency spindles.

reCool® Hi-Speed

The patented solution for retrofitting spindles for internal cooling – new and improved.



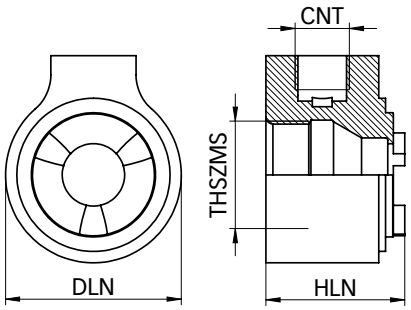
- For high speed spindles
- Tools shank diameter 3–10 mm
- Maximum pressure 100 bar
- Suited for emulsion and oil
- Maximum RPM 40 000 min^{-1}
- For ER 11 and ER 16 including ERM (Mini)
- Ceramic coating for reduced friction
- To be used with KS / DS coolant disks

reCool® Hi-Speed – RCR Hi-S

Type	Part no.	Dimensions [mm] HLN	DLN	THSZMS	Accessories Wrench
Set RCR Hi-S / ER (for emulsion- and oil-based coolants)					
SET RCR Hi-S | ER 11	3711.60000	16,6	21,75	M 14 x 0.75	7117.11000
SET RCR Hi-S | ERM 11	3711.70000	16,6	21,75	M 13 x 0.75	7117.11000
SET RCR Hi-S | ER 16	3716.60000	24,5	34	M 22 x 1.5	7117.16000
SET RCR Hi-S | ERM 16	3716.70000	24,5	34	M 19 x 1	7117.16000
RCR Hi-S / ER nut (for emulsion- and oil-based coolants)					
RCR Hi-S | ER 11	3711.69000	16,6	21,75	M 14 x 0.75	7117.11000
RCR Hi-S | ERM 11	3711.79000	16,6	21,75	M 13 x 0.75	7117.11000
RCR Hi-S | ER 16	3716.69000	24,5	34	M 22 x 1.5	7117.16000
RCR Hi-S | ERM 16	3716.79000	24,5	34	M 19 x 1	7117.16000

Included in set RCR Type	Ex.
RCR / ER 11 – 40	1
SET RHS x 400	1
SET RVG / 1/8" BSP	2
SET RVA 90° / 1/8" BSP	2

SET RCR Hi-S



RCR Hi-S

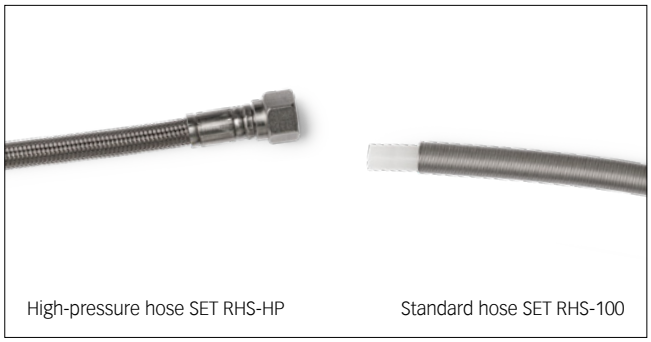
reCool® accessories

Type	Part no.	Length [mm]
High-pressure hoses (≤150 bar) with threaded 1/8" ends		
SET RHS-HP x 100	3799.97100	100
SET RHS-HP x 200	3799.97200	200
SET RHS-HP x 300	3799.97300	300
SET RHS-HP x 400	3799.97400	400
SET RHS-HP x 500	3799.97500	500
SET RHS-HP x 600	3799.97600	600
SET RHS-HP x 700	3799.97700	700
Standard hose set (≤100 bar) incl. steel spiral		
SET RHS x 400	3799.95000	400*

**The length can be shortened individually between 50 - 400 mm*

Type	Part no.	Ø [mm]	Length [mm]
Ball adapters RBA 1/8" BSP			
RBA 10	3799.93100	10	–
RBA 11	3799.93110	11	–
RBA 12	3799.93120	12	–
RBA 13	3799.93130	13	–
RBA 14	3799.93140	14	–
RBA 15	3799.93150	15	–
RBA 16	3799.93160	16	–
Ball head adapter RBA M5x0.5			
RBA 12, M5x0.5	3799. 93125	12	–
Aluminum ring adapters RRA 1/8" BSP			
RRA 10	3799.94100	10	–
RRA 11	3799.94110	11	–
RRA 12	3799.94120	12	–
RRA 13	3799.94130	13	–
RRA 14	3799.94140	14	–
RRA 15	3799.94150	15	–
RRA 16	3799.94160	16	–

Type	Part no.	Length [mm]
Fitting sets (2 pieces each)		
SET RVG / 1/8" BSP	3799.96180	–
SET RVA 90° / 1/8" BSP	3799.96189	–
SET RVG / M8 x 1	3799.96810	–



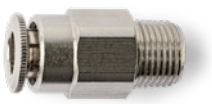
High-pressure hose SET RHS-HP

Standard hose SET RHS-100

Expert advice

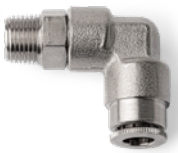
The ball adapter **RBA** is used when the driven tool has a ball connection. The fitting can then be used on the hose.

The aluminum ring adapter **RRA** can be used when the driven tool cooling connection uses the "press-in" principle.



Straight fitting RVG-100 1/8" / RVG-100 M8

Ball adapter RBA

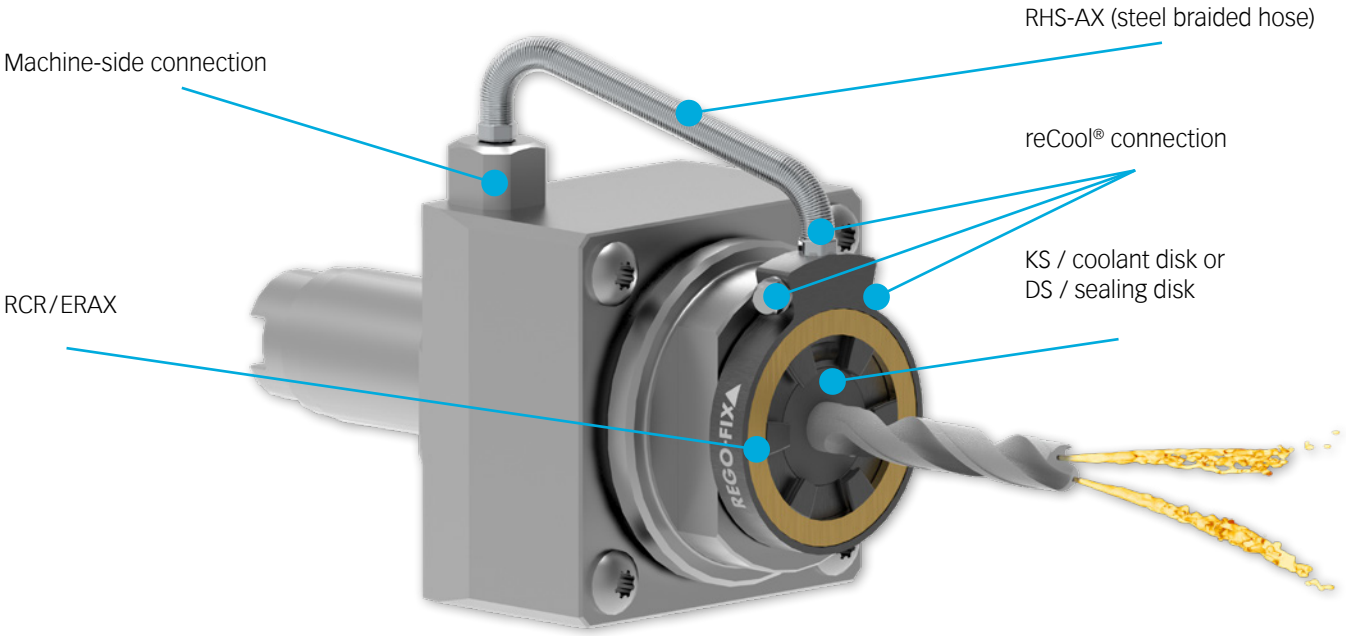


Elbow fitting RVA-100 90°

Aluminum ring adapter RRA

reCool® RCR/ERAX

Easy retrofit to internal coolant supply



KS/coolant disk and DS/sealing disk

The reCool® system can be configured for internal cooling using sealing disks or for peripheral cooling using coolant disks.

Sealed collets (ER-DM) and collets with coolant holes (ER-CB) **cannot be used**.

Machine-side connection

see page ▶ 22

// HB – Hollow bolts
// RBA – Ball head adapter

reCool® connection

see page ▶ 22

// Direct connection with RHS-AX steel braided hose

Hose

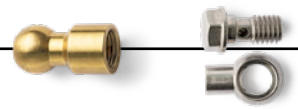
see page ▶ 22

// RHS-AX – steel braided hose for applications up to 100 bar.
The hose length **cannot** be shortened by the user.

reCool® RCR/ERAX

Easy retrofit to internal coolant supply

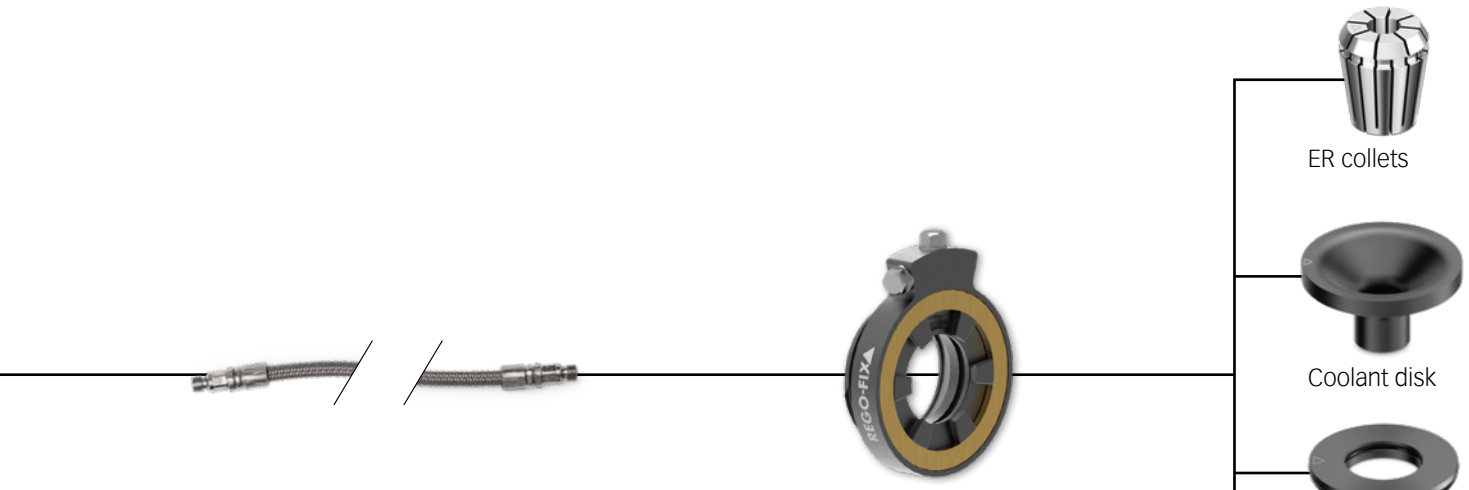
Type	Part no.	Ø
Ball head adapter RBA 1/8" BSP		
RBA 10	3799.93100	10 mm
RBA 11	3799.93110	11 mm
RBA 12	3799.93120	12 mm
RBA 13	3799.93130	13 mm
RBA 14	3799.93140	14 mm
RBA 15	3799.93150	15 mm
RBA 16	3799.93160	16 mm



Type	Part no.
Hollow screws RCR/ERAX	
SET HB-AX / 1/8" BSP	3799.91810

Type	Part no.	Ø
Ball head adapter RBA M5x0.5		
RBA 12, M5x0.5	3799. 93125	12 mm

Type	Part no.
Hollow screws RCR/ERAX	
SET HB-AX M6 x 1	3799.90606
SET HB-AX M8 x 1	3799.90808
SET HB-AX M8 x 1,25	3799.90818
SET HB-AX M10 x 1	3799.91010
SET HB-AX / 1/8" BSP	3799.91810

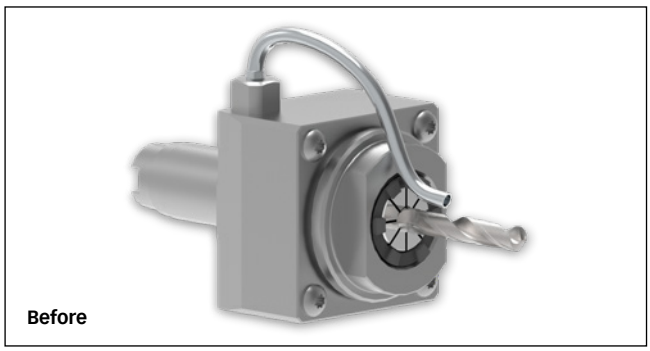


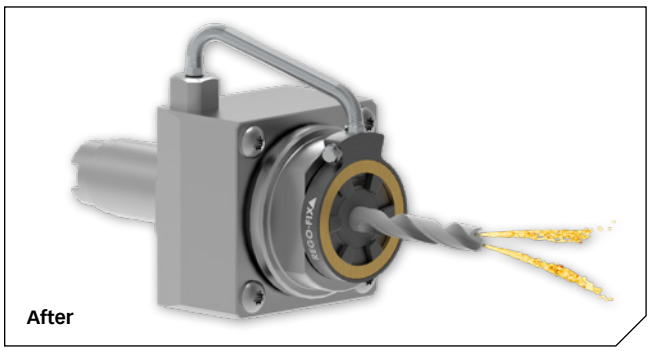
Type	Part no.	Length
Steel braided hose RCR / ERAX		
RHS-AX L080	3799.99080	80 mm
RHS-AX L100	3799.99100	100 mm
RHS-AX L120	3799.99120	120 mm
RHS-AX L140	3799.99140	140 mm
RHS-AX L160	3799.99160	160 mm
RHS-AX L180	3799.99180	180 mm

Type	Part no.
reCool® coolant supply system*	
RCR / ERAX 16	3716.29000
RCR / ERAX 20	3720.29000
RCR / ERAX 25	3725.29000
RCR / ERAX 25-QF	3725.29040
RCR / ERAX 32	3732.29000
RCR / ERAX 32-QF	3732.29040

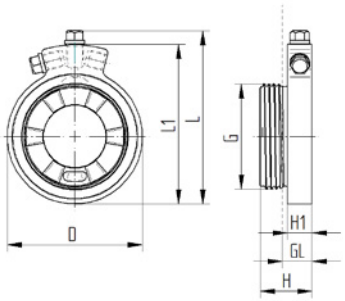
** rotating, with external thread*

reCool® ERAX – RCR | ERAX





- // For driven tools with inner thread
- // Short design: optimising machining range
- // Maximum pressure 100 bar
- // Maximum RPM 12000 min^{-1}
- // Tools shank diameter 3-20 mm
- // Suited for emulsion and oil
- // For ER collets to ISO 15488/DIN 6499
- // To be used with KS/DS disks



Type	Part no.	d [mm]	L [mm]	L1 [mm]	H [mm]	H1 [mm]	GL [mm]	G
Coolant supply system with outer thread, rotational								
RCR/ERAX 16	3716.29000	34,0	46,0	41,5	14,5	7,6	9,0	M24x1,0
RCR/ERAX 20	3720.29000	37,5	49,5	45,0	15,5	7,6	9,0	M28x1,5
RCR/ERAX 25	3725.29000	41,0	53,0	48,5	15,8	7,6	9,0	M32x1,5
RCR/ERAX 32	3732.29000	49,0	61,0	56,5	16,9	7,6	9,0	M40x1,5

Included in delivery:
RBA12 M5x0.5, coolant connection suitable for WTO QuickFlex®, tool holders.

RCR/ERAX

Type	Part no.	d [mm]	L [mm]	L1 [mm]	H [mm]	H1 [mm]	GL [mm]	G
Coolant supply system with outer thread, rotational								
RCR/ERAX 25-QF	3725.29040	41,0	52,7	48,5	15,95	7,6	9,0	M40x1,5
RCR/ERAX 32-QF	3732.29040	50,0	61,2	57,0	18,05	7,6	9,0	M50x1,5

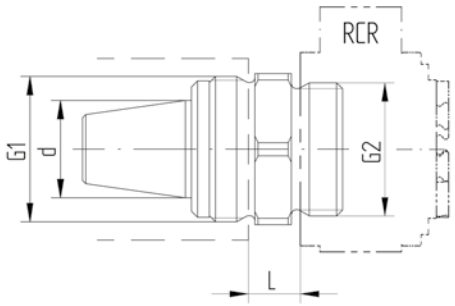
Included in delivery:
RBA12 M5x0.5, coolant connection suitable for WTO QuickFlex®, tool holders.

Matching accessories for your reCool®

Type	Part no.	Dimensions [mm] d	L	Thread G1	Thread G2	Accessories Wrench
reCool® adapter						
RC-ADP 16	3799.81600	16	8,7	M 24 x 1	M 22 x 1,5	7112.16010
RC-ADP 20	3799.82000	20	8,2	M 28 x 1,5	M 25 x 1,5	7112.20010
RC-ADP 25	3799.82500	25	7,9	M 32 x 1,5	M 32 x 1,5	7111.25000
RC-ADP 32	3799.83200	32	8,7	M 40 x 1,5	M 40 x 1,5	7111.32000
RC-ADP 40	3799.84000	40	9,6	M 50 x 1,5	M 50 x 1,5	7111.40000

reCool® adapter The reCool® adapter RC-ADP easily converts inner-threaded driven tools to outer-threaded ones which enables the use of the reCool® rotary coolant supply system RCR with different types of driven tooling.

How to use? Just screw the adapter with advised tightening torque into the driven tool, use the correctly installed reCool® rotary coolant supply system RCR and clamp the tool.



RC-ADP

Type	Part no.	Length	Included
Steelflex hose for RCR / ERAX			
SET RHS-AX x 080	3799.99080	80 mm	Hollow bolt SET HB-AX M6 x 1
SET RHS-AX x 100	3799.99100	100 mm	Hollow bolt SET HB-AX M6 x 1
SET RHS-AX x 120	3799.99120	120 mm	Hollow bolt SET HB-AX M6 x 1
SET RHS-AX x 140	3799.99140	140 mm	Hollow bolt SET HB-AX M6 x 1
SET RHS-AX x 160	3799.99160	160 mm	Hollow bolt SET HB-AX M6 x 1
SET RHS-AX x 180	3799.99180	180 mm	Hollow bolt SET HB-AX M6 x 1

Steelflex hose

Type	Part no.	Description
Hollow bolt for RCR / ERAX		
SET HB-AX M8 x 1	3799.90808	Hollow bolt M8 x 1.00 mm and ringfitting Ø 8.00 mm
SET HB-AX M8 x 1.25	3799.90818	Hollow bolt M8 x 1.25 mm and ringfitting Ø 8.00 mm
SET HB-AX M6 x 1	3799.90606	Hollow bolt M6 x 1.00 mm and ringfitting Ø 6.00 mm
SET HB-AX M10 x 1	3799.91010	Hollow bolt M10 x 1.00 mm and ringfitting Ø 10.00 mm
SET HB-AX / 1/8" BSP	3799.91810	Hollow bolt M 1/8" and ringfitting Ø 10.00 mm

Hollow bolt set

Expert advice

reCool® is only applicable with the use of our sealing DS / ER and Coolant flush disks KS / ER. Please note, that neither DS / ER nor KS / ER are included in the reCool® sets.

Use conditions RCR reCool®

reCool® is used exclusively for clamping tools with ER collets (DIN 6499 / ISO 15488). Only original collets, sealing and cooling disks REGO-FIX® are recommended to be used.

Technical data

The following parameters apply to reCool® rotation:
Max. Rotation speed: 12,000 rpm (6000 rpm with ER40)
Max. coolant pressure: 150 bar / 2175 PSI* (with high pressure hose)
Min. coolant pressure: depending on the rotational speed (see table)

	≤ 3,000 rpm	≤ 6,000 rpm	≤ 9,000 rpm	≤ 12,000 rpm
RCR / ER 11	5 bar / 73 PSI	7,5 bar / 109 PSI	10 bar / 145 PSI	15 bar / 218 PSI
RCR / ER 16	5 bar / 73 PSI	7,5 bar / 109 PSI	10 bar / 145 PSI	15 bar / 218 PSI
RCR / ER 20	5 bar / 73 PSI	7,5 bar / 109 PSI	10 bar / 145 PSI	15 bar / 218 PSI
RCR / ER 25	5 bar / 73 PSI	7,5 bar / 109 PSI	10 bar / 145 PSI	15 bar / 218 PSI
RCR / ER 32	5 bar / 73 PSI	7,5 bar / 109 PSI	10 bar / 145 PSI	15 bar / 218 PSI
RCR / ER 40	5 bar / 73 PSI	7,5 bar / 109 PSI	–	–
RCR / ERM 11	5 bar / 73 PSI	7,5 bar / 109 PSI	10 bar / 145 PSI	15 bar / 218 PSI
RCR / ERM 16	5 bar / 73 PSI	7,5 bar / 109 PSI	10 bar / 145 PSI	15 bar / 218 PSI
RCR / ERM 20	5 bar / 73 PSI	7,5 bar / 109 PSI	10 bar / 145 PSI	15 bar / 218 PSI
RCR / ERM 25	5 bar / 73 PSI	7,5 bar / 109 PSI	10 bar / 145 PSI	15 bar / 218 PSI

Cooling medium: Emulsion or oil up to viscosity ≤ ISO VG 46 (46 mm^2/s 40°C) and filtered 20 µm
Working temperature: 10° C to 60° C

*** The supplied hose and fittings are designed and tested for maximum coolant pressure of 100 bar / 1450 PSI. For higher coolant pressures the High-pressure hose is mandatory.**

Dimensions

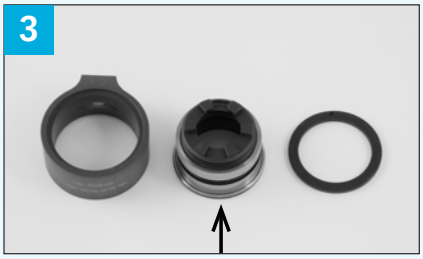
Type	Clamping range [mm]	D [mm]	L [mm]	H [mm]	G
RCR / ER 11	3,00 – 6,00	21,75	29,50	16,50	M14 x 0,75
RCR / ER 16	3,00 – 10,00	34,00	39,50	24,50	M22 x 1,5
RCR / ER 20	3,00 – 13,00	40,00	44,50	26,00	M25 x 1,5
RCR / ER 25	3,00 – 16,00	50,00	53,50	27,00	M32 x 1,5
RCR / ER 32	3,00 – 20,00	62,50	64,75	29,50	M40 x 1,5
RCR / ER 40	3,00 – 26,00	72,50	74,75	32,50	M50 x 1,5
RCR / ERM 11	3,00 – 6,00	21,75	29,50	16,50	M13 x 0,75
RCR / ERM 16	3,00 – 10,00	31,00	36,50	24,50	M19 x 1
RCR / ERM 20	3,00 – 13,00	38,00	43,00	26,00	M24 x 1
RCR / ERM 25	3,00 – 17,00	46,00	50,50	27,00	M30 x 1

Cleaning instructions

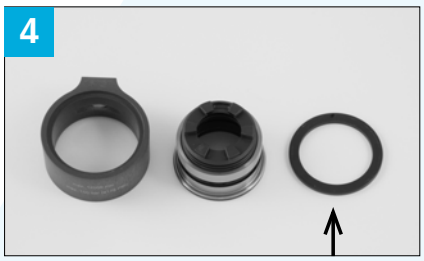
reCool® is designed with a wear resistant coating, eliminating the need for extensive maintenance. The only time cleaning is needed is when the RCR system no longer rotates lightly by hand.

Mark the position of the inner part to outer ring.

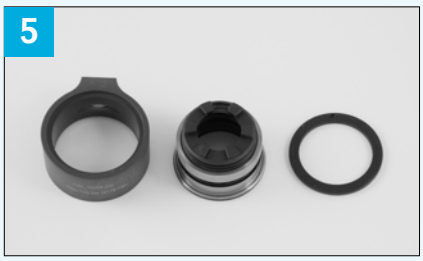
Remove the retaining ring with pliers.



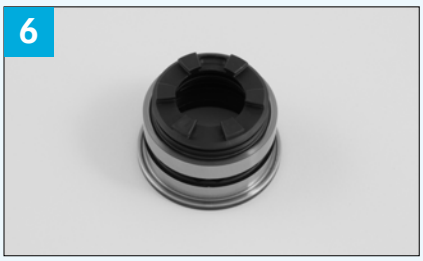
Now slide out inner part.



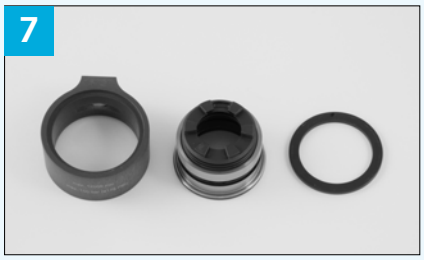
Remove the disk.



Clean all parts intensively with a standard industrial cleaning agent.

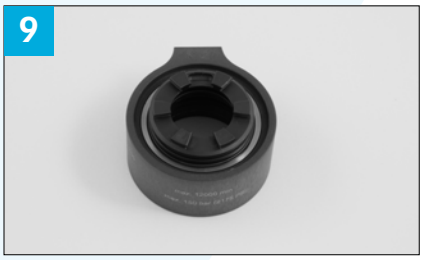


Lightly oil the bearing surfaces with thin lubricating oil.



Put the parts in the correct position together.

Mount this retaining ring.



Pay attention that it snaps into place.

⚠	**reCool® parts may not be swapped out. Original configuration must be maintained.**
⚠	**Never let the reCool® system run dry.**
⚠	**When starting the machine, make sure that coolant flows out of the tool or the coolant flush disk before rotating the reCool® System.**
⚠	**A coolant pressure below minimum may lead to inadequate cooling/lubrication and therefore could damage the reCool® bearings.**
⚠	**Inadequate coolant pressure results in considerable impairment in cooling the tool and chip removal.**
⚠	**Stop screws with coolant through bores must be replaced!**
⚠	**If the stop screw is not sealed nor replaced, there is danger that the coolant may get inside the gears which may result in damages of the driven tool.**
⚠	**For best cooling do not exploit the clamping range of the collet. E.g. clamp a Ø 6mm tool shank in Ø 6.0 – 5.0 mm collet.**
⚠	**Do not use metallic sealed ER-DM collets with reCool, because the coolant cannot reach the tool.**

Coolant flush disks KS / ER

Compatible with reCool® for peripheral cooling

Type	Part no.	Ø [mm]
KS / ER 11		
Ø 3,0 mm / 1/8"	3911.30318	3
Ø 4,0 mm	3911.20400	4
Ø 5,0 mm / 3/16"	3911.20500	5
Ø 6,0 mm / 1/4"	3911.30635	6
BLANK KS / ER 11*	3911.29999	–
KS / ER 16		
Ø 3,0 mm	3916.20300	3
Ø 4,0 mm	3916.20400	4
Ø 5,0 mm	3916.20500	5
Ø 6,0 mm	3916.20600	6
Ø 7,0 mm	3916.20700	7
Ø 8,0 mm	3916.20800	8
Ø 9,0 mm	3916.20900	9
Ø 10,0 mm	3916.21000	10
BLANK KS / ER 16*	3916.29999	–
KS / ER 20		
Ø 3,0 mm	3920.20300	3
Ø 4,0 mm	3920.20400	4
Ø 5,0 mm	3920.20500	5
Ø 6,0 mm	3920.20600	6
Ø 7,0 mm	3920.20700	7
Ø 8,0 mm	3920.20800	8
Ø 9,0 mm	3920.20900	9
Ø 10,0 mm	3920.21000	10
Ø 12,0 mm	3920.21200	12
BLANK KS / ER 20*	3920.29999	–

**Werkstoff: 42CrMoS4 (1.7227)*

Type	Part no.	Ø [mm]
KS / ER 25		
Ø 3,0 mm	3925.20300	3
Ø 4,0 mm	3925.20400	4
Ø 5,0 mm	3925.20500	5
Ø 6,0 mm	3925.20600	6
Ø 7,0 mm	3925.20700	7
Ø 8,0 mm	3925.20800	8
Ø 9,0 mm	3925.20900	9
Ø 10,0 mm	3925.21000	10
Ø 12,0 mm	3925.21200	12
Ø 14,0 mm	3925.21400	14
Ø 16,0 mm	3925.21600	16
BLANK KS / ER 25*	3925.29999	–
KS / ER 32		
Ø 3,0 mm	3932.20300	3
Ø 4,0 mm	3932.20400	4
Ø 5,0 mm	3932.20500	5
Ø 6,0 mm	3932.20600	6
Ø 7,0 mm	3932.20700	7
Ø 8,0 mm	3932.20800	8
Ø 9,0 mm	3932.20900	9
Ø 10,0 mm	3932.21000	10
Ø 12,0 mm	3932.21200	12
Ø 14,0 mm	3932.21400	14
Ø 16,0 mm	3932.21600	16
Ø 18,0 mm	3932.21800	18
Ø 20,0 mm	3932.22000	20
BLANK KS / ER 32*	3932.29999	–

**Werkstoff: 42CrMoS4 (1.7227)*

Coolant disk KS / ER

Included in the DS / ER sets are all marked disks within that ER size and the matching disk tray DSR.

Sealing disks DS / ER

Compatible with reCool® for internal cooling

Type	Part no.	Tool diameter [mm]	Tool diameter [inch]
DS / ER 11			
Ø 3,0 mm	3911.00300	3,0	–
Ø 1/8"	3911.00318	–	1/8"
Ø 3,5 mm	3911.00350	3,5	–
Ø 4,0 mm	3911.00400	4,0	5/32"
Ø 3/16"	3911.00476	–	3/16"
Ø 5,0 mm	3911.00500	5,0	–
Ø 6,0 mm	3911.00600	6,0	–
Ø 1/4"	3911.00635	–	1/4"
BLANK DS / ER 11	3911.09999	–	–

Type	Part no.	Tool diameter [mm]	Incl. in set
DS / ER 16			
SET DS / ER 16 (14 pcs.)	3916.00000	3,0 – 10,0	–
Ø 3,0 mm	3916.00300	3,0 – 2,5	–
Ø 3,5 mm	3916.00350	3,5 – 3,0	•
Ø 4,0 mm	3916.00400	4,0 – 3,5	•
Ø 4,5 mm	3916.00450	4,5 – 4,0	•
Ø 5,0 mm	3916.00500	5,0 – 4,5	•
Ø 5,5 mm	3916.00550	5,5 – 5,0	•
Ø 6,0 mm	3916.00600	6,0 – 5,5	•
Ø 6,5 mm	3916.00650	6,5 – 6,0	•
Ø 7,0 mm	3916.00700	7,0 – 6,5	•
Ø 7,5 mm	3916.00750	7,5 – 7,0	•
Ø 8,0 mm	3916.00800	8,0 – 7,5	•
Ø 8,5 mm	3916.00850	8,5 – 8,0	•
Ø 9,0 mm	3916.00900	9,0 – 8,5	•
Ø 9,5 mm	3916.00950	9,5 – 9,0	•
Ø 10,0 mm	3916.01000	10,0 – 9,5	•
BLANK DS / ER 16	3916.09999	–	–

Type	Part no.	Tool diameter [mm]	Incl. in set
DS / ER 20			
SET DS / ER 20 (20 pcs.)	3920.00000	3,0 – 13,0	–
Ø 3,0 mm	3920.00300	3,0 – 2,5	–
Ø 3,5 mm	3920.00350	3,5 – 3,0	•
Ø 4,0 mm	3920.00400	4,0 – 3,5	•
Ø 4,5 mm	3920.00450	4,5 – 4,0	•
Ø 5,0 mm	3920.00500	5,0 – 4,5	•
Ø 5,5 mm	3920.00550	5,5 – 5,0	•
Ø 6,0 mm	3920.00600	6,0 – 5,5	•
Ø 6,5 mm	3920.00650	6,5 – 6,0	•
Ø 7,0 mm	3920.00700	7,0 – 6,5	•
Ø 7,5 mm	3920.00750	7,5 – 7,0	•
Ø 8,0 mm	3920.00800	8,0 – 7,5	•
Ø 8,5 mm	3920.00850	8,5 – 8,0	•
Ø 9,0 mm	3920.00900	9,0 – 8,5	•
Ø 9,5 mm	3920.00950	9,5 – 9,0	•
Ø 10,0 mm	3920.01000	10,0 – 9,5	•
Ø 10,5 mm	3920.01050	10,5 – 10,0	•
Ø 11,0 mm	3920.01100	11,0 – 10,5	•
Ø 11,5 mm	3920.01150	11,5 – 11,0	•
Ø 12,0 mm	3920.01200	12,0 – 11,5	•
Ø 12,5 mm	3920.01250	12,5 – 12,0	•
Ø 13,0 mm	3920.01300	13,0 – 12,5	•
BLANK DS / ER 20	3920.09999	–	–

Sealing disk DS / ER

Included in the DS / ER sets are all marked disks within that ER size and the matching disk tray DSR.

Sealing disks DS / ER

Compatible with reCool® for internal cooling

Type	Part no.	Tool diameter [mm]	Incl. in set
DS / ER 25			
SET DS / ER 25 (26 pcs.)	3925.00000	3,0 – 16,0	–
Ø 3,0 mm	3925.00300	3,0 – 2,5	–
Ø 3,5 mm	3925.00350	3,5 – 3,0	•
Ø 4,0 mm	3925.00400	4,0 – 3,5	•
Ø 4,5 mm	3925.00450	4,5 – 4,0	•
Ø 5,0 mm	3925.00500	5,0 – 4,5	•
Ø 5,5 mm	3925.00550	5,5 – 5,0	•
Ø 6,0 mm	3925.00600	6,0 – 5,5	•
Ø 6,5 mm	3925.00650	6,5 – 6,0	•
Ø 7,0 mm	3925.00700	7,0 – 6,5	•
Ø 7,5 mm	3925.00750	7,5 – 7,0	•
Ø 8,0 mm	3925.00800	8,0 – 7,5	•
Ø 8,5 mm	3925.00850	8,5 – 8,0	•
Ø 9,0 mm	3925.00900	9,0 – 8,5	•
Ø 9,5 mm	3925.00950	9,5 – 9,0	•
Ø 10,0 mm	3925.01000	10,0 – 9,5	•
Ø 10,5 mm	3925.01050	10,5 – 10,0	•
Ø 11,0 mm	3925.01100	11,0 – 10,5	•
Ø 11,5 mm	3925.01150	11,5 – 11,0	•
Ø 12,0 mm	3925.01200	12,0 – 11,5	•
Ø 12,5 mm	3925.01250	12,5 – 12,0	•
Ø 13,0 mm	3925.01300	13,0 – 12,5	•
Ø 13,5 mm	3925.01350	13,5 – 13,0	•
Ø 14,0 mm	3925.01400	14,0 – 13,5	•
Ø 14,5 mm	3925.01450	14,5 – 14,0	•
Ø 15,0 mm	3925.01500	15,0 – 14,5	•
Ø 15,5 mm	3925.01550	15,5 – 15,0	•
Ø 16,0 mm	3925.01600	16,0 – 15,5	•
BLANK DS / ER 25	3925.09999	–	–

Type	Part no.	Tool diameter [mm]	Incl. in set
DS / ER 32			
SET DS / ER 32 (34 pcs.)	3932.00000	3,0 – 20,0	–
Ø 3,0 mm	3932.00300	3,0 – 2,5	–
Ø 3,5 mm	3932.00350	3,5 – 3,0	•
Ø 4,0 mm	3932.00400	4,0 – 3,5	•
Ø 4,5 mm	3932.00450	4,5 – 4,0	•
Ø 5,0 mm	3932.00500	5,0 – 4,5	•
Ø 5,5 mm	3932.00550	5,5 – 5,0	•
Ø 6,0 mm	3932.00600	6,0 – 5,5	•
Ø 6,5 mm	3932.00650	6,5 – 6,0	•
Ø 7,0 mm	3932.00700	7,0 – 6,5	•
Ø 7,5 mm	3932.00750	7,5 – 7,0	•
Ø 8,0 mm	3932.00800	8,0 – 7,5	•
Ø 8,5 mm	3932.00850	8,5 – 8,0	•
Ø 9,0 mm	3932.00900	9,0 – 8,5	•
Ø 9,5 mm	3932.00950	9,5 – 9,0	•
Ø 10,0 mm	3932.01000	10,0 – 9,5	•
Ø 10,5 mm	3932.01050	10,5 – 10,0	•
Ø 11,0 mm	3932.01100	11,0 – 10,5	•
Ø 11,5 mm	3932.01150	11,5 – 11,0	•
Ø 12,0 mm	3932.01200	12,0 – 11,5	•
Ø 12,5 mm	3932.01250	12,5 – 12,0	•
Ø 13,0 mm	3932.01300	13,0 – 12,5	•
Ø 13,5 mm	3932.01350	13,5 – 13,0	•
Ø 14,0 mm	3932.01400	14,0 – 13,5	•
Ø 14,5 mm	3932.01450	14,5 – 14,0	•
Ø 15,0 mm	3932.01500	15,0 – 14,5	•
Ø 15,5 mm	3932.01550	15,5 – 15,0	•
Ø 16,0 mm	3932.01600	16,0 – 15,5	•
Ø 16,5 mm	3932.01650	16,5 – 16,0	•
Ø 17,0 mm	3932.01700	17,0 – 16,5	•
Ø 17,5 mm	3932.01750	17,5 – 17,0	•
Ø 18,0 mm	3932.01800	18,0 – 17,5	•
Ø 18,5 mm	3932.01850	18,5 – 18,0	•
Ø 19,0 mm	3932.01900	19,0 – 18,5	•
Ø 19,5 mm	3932.01950	19,5 – 19,0	•
Ø 20,0 mm	3932.02000	20,0 – 19,5	•
BLANK DS / ER 32	3932.09999	–	–

Included in the DS / ER sets are all marked disks within that ER size and the matching disk tray DSR.

Sealing disks DS / ER

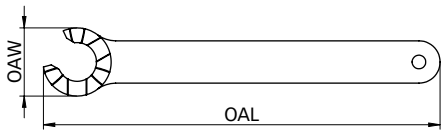
Compatible with reCool® for internal cooling

Type	Part no.	Tool diameter [mm]	Incl. in set
DS / ER 40			
SET DS / ER 40 (46 pcs.)	3940.00000	3,0 – 26,0	–
Ø 3,0 mm	3940.00300	3,0 – 2,5	–
Ø 3,5 mm	3940.00350	3,5 – 3,0	•
Ø 4,0 mm	3940.00400	4,0 – 3,5	•
Ø 4,5 mm	3940.00450	4,5 – 4,0	•
Ø 5,0 mm	3940.00500	5,0 – 4,5	•
Ø 5,5 mm	3940.00550	5,5 – 5,0	•
Ø 6,0 mm	3940.00600	6,0 – 5,5	•
Ø 6,5 mm	3940.00650	6,5 – 6,0	•
Ø 7,0 mm	3940.00700	7,0 – 6,5	•
Ø 7,5 mm	3940.00750	7,5 – 7,0	•
Ø 8,0 mm	3940.00800	8,0 – 7,5	•
Ø 8,5 mm	3940.00850	8,5 – 8,0	•
Ø 9,0 mm	3940.00900	9,0 – 8,5	•
Ø 9,5 mm	3940.00950	9,5 – 9,0	•
Ø 10,0 mm	3940.01000	10,0 – 9,5	•
Ø 10,5 mm	3940.01050	10,5 – 10,0	•
Ø 11,0 mm	3940.01100	11,0 – 10,5	•
Ø 11,5 mm	3940.01150	11,5 – 11,0	•
Ø 12,0 mm	3940.01200	12,0 – 11,5	•
Ø 12,5 mm	3940.01250	12,5 – 12,0	•
Ø 13,0 mm	3940.01300	13,0 – 12,5	•
Ø 13,5 mm	3940.01350	13,5 – 13,0	•
Ø 14,0 mm	3940.01400	14,0 – 13,5	•
Ø 14,5 mm	3940.01450	14,5 – 14,0	•
Ø 15,0 mm	3940.01500	15,0 – 14,5	•
Ø 15,5 mm	3940.01550	15,5 – 15,0	•
Ø 16,0 mm	3940.01600	16,0 – 15,5	•
Ø 16,5 mm	3940.01650	16,5 – 16,0	•
Ø 17,0 mm	3940.01700	17,0 – 16,5	•
Ø 17,5 mm	3940.01750	17,5 – 17,0	•
Ø 18,0 mm	3940.01800	18,0 – 17,5	•
Ø 18,5 mm	3940.01850	18,5 – 18,0	•
Ø 19,0 mm	3940.01900	19,0 – 18,5	•
Ø 19,5 mm	3940.01950	19,5 – 19,0	•
Ø 20,0 mm	3940.02000	20,0 – 19,5	•
Ø 20,5 mm	3940.02050	20,5 – 20,0	•
Ø 21,0 mm	3940.02100	21,0 – 20,5	•
Ø 21,5 mm	3940.02150	21,5 – 21,0	•
Ø 22,0 mm	3940.02200	22,0 – 21,5	•
Ø 22,5 mm	3940.02250	22,5 – 22,0	•
Ø 23,0 mm	3940.02300	23,0 – 22,5	•
Ø 23,5 mm	3940.02350	23,5 – 23,0	•
Ø 24,0 mm	3940.02400	24,0 – 23,5	•
Ø 24,5 mm	3940.02450	24,5 – 24,0	•
Ø 25,0 mm	3940.02500	25,0 – 24,5	•
Ø 25,5 mm	3940.02550	25,5 – 25,0	•
Ø 26,0 mm	3940.02600	26,0 – 25,5	•
BLANK DS / ER 40	3940.09999	–	–

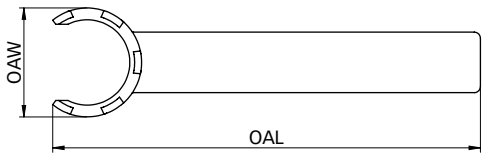
Included in the DS / ER sets are all marked disks within that ER size and the matching disk tray DSR.

Wrenches

Type	Part no.	OAW [mm]	OAL [mm]
E AX			
E 11 AX	7117.11000	16	108
E 16 AX	7117.16000	22	131
E 20 AX	7117.20000	26	148
E 25 AX	7117.25000	30	165
E 32 AX	7117.32000	37	196
E MX			
E 16 MX	7118.16000	22,5	117
E 20 MX	7118.20000	29	129



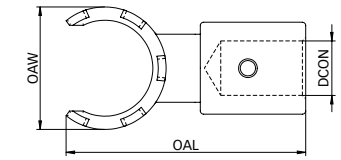
E AX



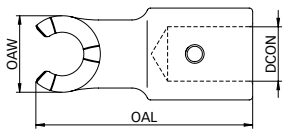
E MX

Wrench heads

Type	Part no.	OAW [mm]	OAL [mm]	DRVS [mm]	DCON
A-E MX					
A-E 16 MX	7158.16000	22	56		16
A-E 20 MX	7158.20000	29	68		16
A-E AX					
A-E 11 AX	7157.11000	16	62		16
A-E 16 AX	7157.16000	22	63		16
A-E 20 AX	7157.20000	26	64		16
A-E 25 AX	7157.25000	29	93		16
A-E 32 AX	7157.32000	37	95		16



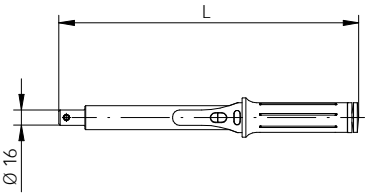
A-E MX



A-E AX

Torque wrenches TORCO-FIX

Type	Part no.	L [mm]	Range [Nm]	Range [ft-lbs]
TORCO-FIX				
TORCO-FIX 0	7150.02025	290	5–25	3,5–18
TORCO-FIX I	7150.05050	335	10–50	7,5–36,5
TORCO-FIX II	7150.20200	465	40–200	26,5–147
TORCO-FIX III	7150.60300	565	60–300	44,5–221

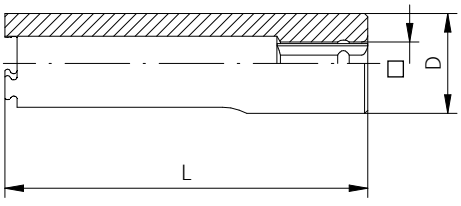


TORCO-FIX

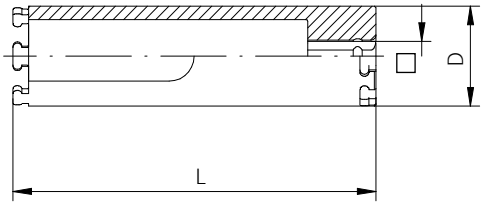
Slip-off proof extension V-E AX for E AX and A-E AX
Slip-off proof extension V-E MX for E MX and A-E MX

Type	Part no.	D [mm]	L [mm]	Square □ [mm]	Square □ [inch]
V-E AX					
V-E 11 AX	7155.11000	16,5	60	6,35	1/4"
V-E 16 AX	7155.16000	22,5	80	6,35	1/4"
V-E 20 AX	7155.20000	26	95	9,525	3/8"
V-E 25 AX	7155.25000	29,5	105	12,7	1/2"
V-E 32 AX	7155.32000	37,5	115	12,7	1/2"

Type	Part no.	D [mm]	L [mm]	Square □ [mm]	Square □ [inch]
V-E MX					
V-E 16 MX	7159.16000	22,5	80	6,35	1/4"
V-E 20 MX	7159.20000	29	95	12,7	1/2"



V-E AX

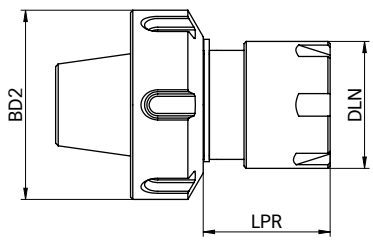


V-E MX

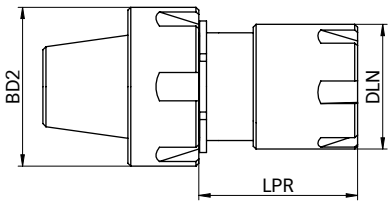
Collet reductions

		Dimensions [mm]			Accessories
Type	**Part no.**	**DLN**	**BD2**	**LPR**	**Wrench**
ER 11					
ER 11/ERM 8	7162.11080	12	19	16,5	7112.11010 / 7113.08000
ER 16					
ER 16/ERM 11	7162.16110	16	28	18,5	7112.16010 / 7113.11000
ER 20					
ER 20/ERM 11*	7162.20110	16	34	16.5	7112.20010 / 7112.11010
ER 20/ERM 16	7162.20160	22	34	28	7112.20010 / 7113.16000
ER 25					
ER 25/ERM 11*	7162.25110	16	42	16,5	7111.25000 / 7113.11000
ER 25/ERM 16	7162.25160	22	42	28	7111.25000 / 7113.16000
ER 25/ERM 20	7162.25200	28	42	28	7111.25000 / 7113.20000
ERM 11					
ERM 11/ERM 8	7161.11080	12	16	16,5	7113.11000 / 7113.08000
ERM 16					
ERM 16/ERM 11	7161.16110	16	23	18,5	7113.11000 / 7113.11000
ERM 20					
ERM 20/ERM 16	7161.20160	22	28	28	7113.20000 / 7113.16000
ERM 25					
ERM 25/ERM 11	7161.25110	16	35	22	7113.25000 / 7113.11000
ERM 25/ERM 16	7161.25160	22	35	28	7113.25000 / 7113.16000
ERM 25/ERM 20	7161.25200	28	35	28	7113.25000 / 7113.20000
ER 32*					
ER 32/ER 16	7160.32160	28	50	29,5	7111.32000 / 7112.16010

**USA only*



ER /ERM



ERM / ERM

Technical information

reCool® RCR	reCool® RCS	Shank-Ø [mm]	Recommended tightening torque [Nm]
Recommended tightening torque			
ER 11	–	3.0 – 6.0	24
ER 16	–	3.0 – 3.5	20
		4.0 – 4.5	40
		5.0 – 10.0	56
ER 20	–	3.0 – 6.5	32
		7.0 – 13.0	80
ER 25	–	3.0 – 3.5	24
		4.0 – 4.5	56
		5.0 – 7.5	80
		8.0 – 17.0	104
ER 32	–	3.0 – 7.5	136
		8.0 – 22.0	136
ER 40	–	3.0 – 26.0	176
ERM 11	–	3.0 – 3.5	16
ERM 16	ERM 16	3.0 – 3.5	20
		4.0 – 10.0	24
ERM 20	ERM 20	3.0 – 13.0	28
ERM 25	–	3.0 – 3.5	24
		4.0 – 17.0	32

reCool® ERAX	Shank-Ø [mm]	Recommended tightening torque [Nm]
ER 11	3.0 – 7.0	24
ER 16	3.0 – 3.5	20
	4.0 – 4.5	40
	5.0 – 10.0	40
ER 20	3.0 – 6.5	52
	7.0 – 13.0	52
ER 25	3.0 – 3.5	24
	4.0 – 4.5	56
	5.0 – 7.5	80
	8.0 – 17.0	80
ER 32	3.0 – 7.5	104
	8.0 – 22.0	104

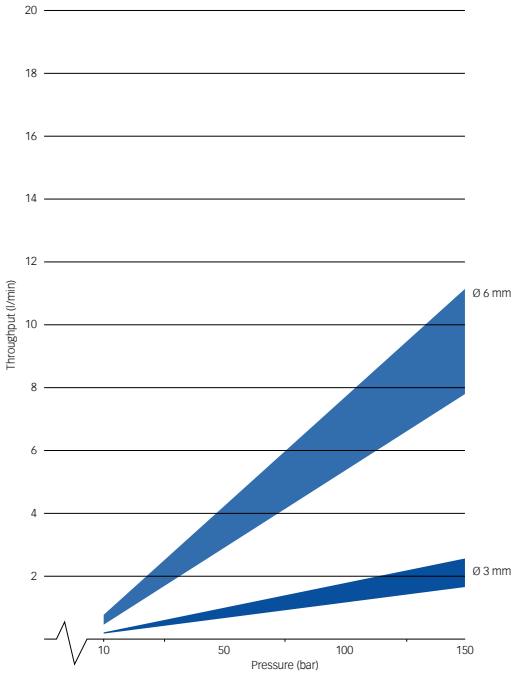
Expert advice

Make sure that coolant flows out of the tool or the coolant flush disk before rotating the reCool® System. A coolant pressure below minimum may lead to inadequate cooling/lubrication and therefore could damage the reCool® bearings. **Never let the reCool® run dry.**

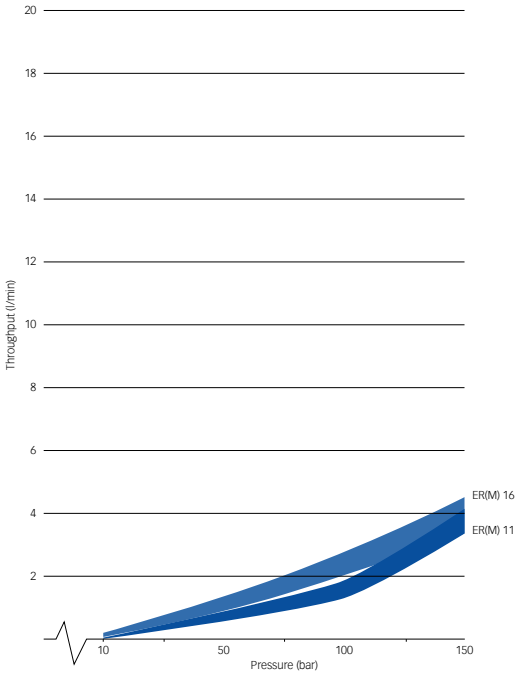
Inadequate coolant pressure results in considerable impairment in cooling the tool and chip removal.

Coolant graphs

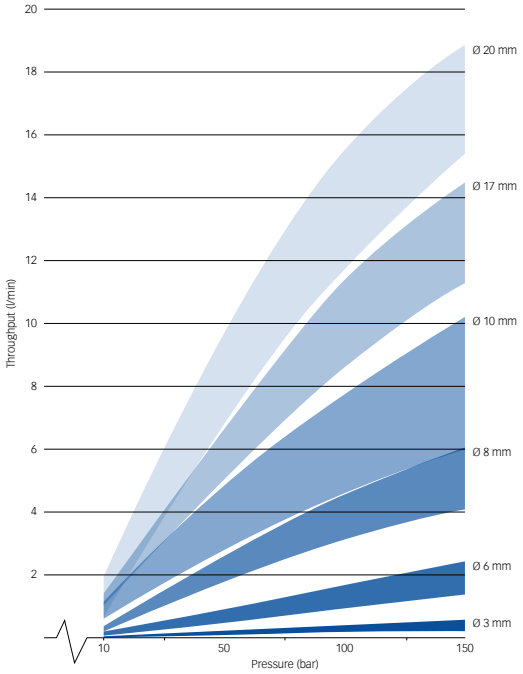
Tool output



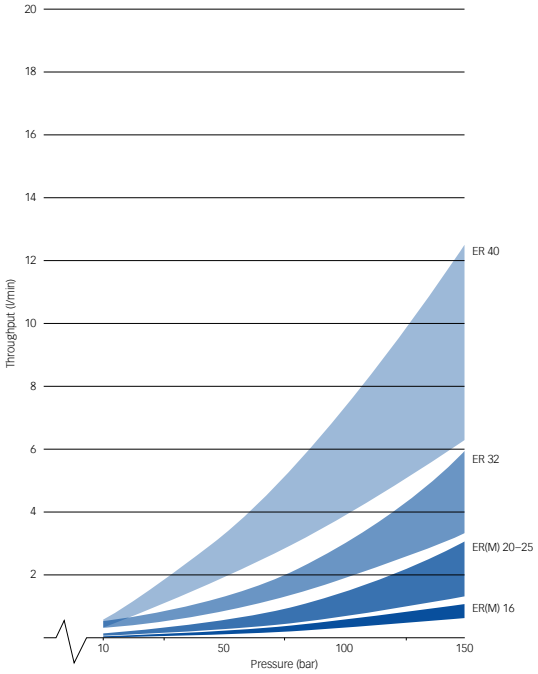
Bearing output



Tool output



Bearing output



Expert advice

It is of utmost importance that the ratio between the tool size (shank) on the one side and the RCR side is 'in balance' i.e. the RCR needs to be as small as possible and as large as needed. For ER size reductions see page 32.

How to read the graph:

1) Please find your tool size in the left graphic (3-6 in the top graph, 3-20 in the lower graph)
2) The higher throughput (in litre/minute) -within one tool size- is for shorter tools, the lower throughput is for longer tools.
3) Please identify the amount of pressure (in bar) of the pump on the X-axis.
4) The 'RCR balance' is only correct if the tool side graph (left) is ≥ than the RCR bearing output side (right), otherwise the size of the RCR needs to be reduced.

REGO-FIX AG is ISO certified:
ISO 9001 for quality management / since 1996
ISO 14001 for environmental management / since 2007
ISO 45001 for occupational health and safety / since 2019

Swiss quality standard
Our products marked Swiss made are manufactured at our headquarters in Tenniken, Switzerland.

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